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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/077,104	02/15/2002	Andrew Moy	SJO920010085US1	2109

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EXAMINER

PHAN, RAYMOND NGAN

ART UNIT	PAPER NUMBER
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2111

DATE MAILED: 06/25/2004

4

Please find below and/or attached an Office communication concerning this application or proceeding.

5

Office Action Summary

Application No.

10/077,104

Applicant(s)

MOY, ANDREW

Examiner

Raymond Phan

Art Unit

2111

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2</u> . | 6) <input type="checkbox"/> Other: ____. |

Part III DETAILED ACTION

Notice to Applicant(s)

1. This application has been examined. Claims 1-36 are pending.
2. The Group and/or Art Unit location of your application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Group Art Unit 2111.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 112

4. Claims 3 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claim 3 (page 12, lines 1-2), claim 25 (page 16, lines 1-2), using the phrase, "...the first and second memory regions...", lacks proper antecedent basis and causes the claim to be vague and indefinite.

5. The remaining claims, not specifically mentioned, are rejected for incorporating the defects from the parent claim by dependency.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C.

§ 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

7. Claims 1, 4-23, 26-36 are rejected under 35 U.S.C. § 102(e) as being anticipated by Brown (US No. 6,385,686).

In regard to claims 1, 15, 23, Brown discloses the method for processing operations in a system including a bus, a target device and devices capable of accessing the target device over the bus, wherein the target device performs: receiving a transaction request from one of the devices over the bus (see col. 4, line 64 through col. 5, line 15); determining whether a delayed read request is pending after receiving the transaction request (see col. 4, line 64 through col. 5, line 15); issuing a command to disconnect the device initiating the transaction request from the bus (see col. 5, lines 7-15); and allowing the device initiating the transaction request to reconnect to the bus and complete the transaction request after the delayed read request is completed (see col. 4, line 64 through col. 5, line 29).

In regard to claims 4, 26, Brown discloses wherein the command to disconnect comprises a retry disconnect that occurs before data subject to the transaction request is transmitted (see col. 5, lines 7-15).

In regard to claims 5, 17, 27, further comprising: determining whether requested data for the delayed read request is available to return, wherein the

command to disconnect the device initiating the transaction request is issued after the requested data for the delayed read request is determined to be available to return (see col. 5, lines 4-15).

In regard to claims 6, 18, 28, Brown further discloses allowing the transaction request to proceed if the delayed read request is pending and if the requested data for the delayed read request is not available to return (see col. 5, lines 4-15).

In regard to claims 7, 19, 29, Brown further discloses: after allowing the transaction request to proceed, determining that all the requested data is available to return, wherein the command to disconnect is issued after determining that all the requested data is available to return after allowing the transaction request to proceed (see col. 5, lines 4-29).

In regard to claims 8, 20, 30, Brown disclose wherein the transaction request will attempt to reconnect to the target device to complete an unfinished portion of the transaction request that did not complete as a result of the issuing of the command to disconnect (see col. 4, lines 4-15).

In regard to claims 9, 31, Brown discloses wherein the transaction request comprises a write request, wherein the target device receives write data while the delayed read request is pending and the requested data is not available to return, wherein the device issuing the write request will transmit that portion of the write data not sent as a result of the issuing of the command to disconnect during a subsequent reconnect to the target device (see col. 4, lines 12-59).

In regard to claims 10, 21, 32, Brown discloses wherein the bus, target device, and devices communicate using the Peripheral Component Interconnect (PCI) protocol, and wherein the devices that initiate the delayed read request and

transaction request comprise master devices for the bus (see col. 4, line 64 through col. 5, line 15).

In regard to claims 11, 22, 33, Brown further discloses; determining whether a variable indicates a first state or a second state, wherein the state indicated by the variable determines when the target device issues the command to disconnect the device initiating the transaction request while the delayed read request is pending (see col. 4, lines 12-59).

In regard to claims 12, 34, Brown further discloses: issuing the command to disconnect the device initiating the transaction request when the device that initiated the delayed read request attempts to reconnect to the target device if the variable indicates the first state (see col. 4, lines 12-59); and issuing the command to disconnect the device initiating the transaction request after all the requested data for the delayed read request is determined to be available to return if the variable indicates the second state (see col. 4, lines 12-59).

In regard to claims 13, 25, Brown further discloses: allowing the transaction request to proceed during a time at which all the requested data for the delayed read request is not available to return if the variable indicates the second state (see col. 4, lines 12-59).

In regard to claims 14, 36, Brown discloses wherein transaction request and delayed read request are initiated from different devices (see col. 4, line 64 through col. 5, line 40).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2-3, 24-25 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Brown in view of Melo et al. (US No. 6,279,087).

In regard to claims 2, 24, Brown discloses the claimed subject matter as discussed above rejection except the teaching of wherein the delayed read request is directed toward a first memory region and the transaction request comprises an Input/Output request directed toward a second memory region. However Melo et al. disclose the delayed read request is directed toward a first memory region 220 and the transaction request comprises an Input/Output request directed toward a second memory region 222 (see figure 2, col. 5, line 24 through col. 6, line 27). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Melo et al. within the system of Brown because it would improve the performance of the bus bridge.

In regard to claims 3, 25, Melo et al. disclose wherein the first and second memory regions are implemented within the target device (see figure 2, col. 5, line 24 through col. 6, line 27). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Melo et al. within the system of Brown because it would improve the performance of the bus bridge.

Conclusion

10. All claims are rejected.

11. The prior arts made of record and not relied upon are considered pertinent to applicant's disclosure.

Khan et al. (US No. 6,625,683) disclose an automatic early PCI transaction retry.

Neal et al. (US No. 6,351,784) disclose a system for determining whether a subsequent transaction may be allowed or must be allowed or must not be allowed to bypass a preceding transaction.

Adusumilli (US No. 6,412,030) discloses system and method to optimize read performance while accepting write data in a PCI bus architecture.

Hausauer et al. (US No. 5,870,567) disclose a delayed transaction protocol for computer system bus.

Jeddeloh (US No. 6,742,074) discloses a bus to system memory delayed read processing

Batchelor et al. (US No. 6,449,678) disclose a method and system for multiple read/write transactions across a bridge system.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Raymond Phan, whose telephone number is (703) 306-2756. The examiner can normally be reached on Monday-Friday from 6:30AM- 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Primary, Paul Myers can be reached on (703) 305-9656 or via e-mail addressed to paul.myers@uspto.gov. The fax phone number for this Group is (703) 872-9306.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [raymond.phan@uspto.gov].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

RP

Raymond Phan
6/17/04

Paul R. Myers

PAUL R. MYERS
PRIMARY EXAMINER